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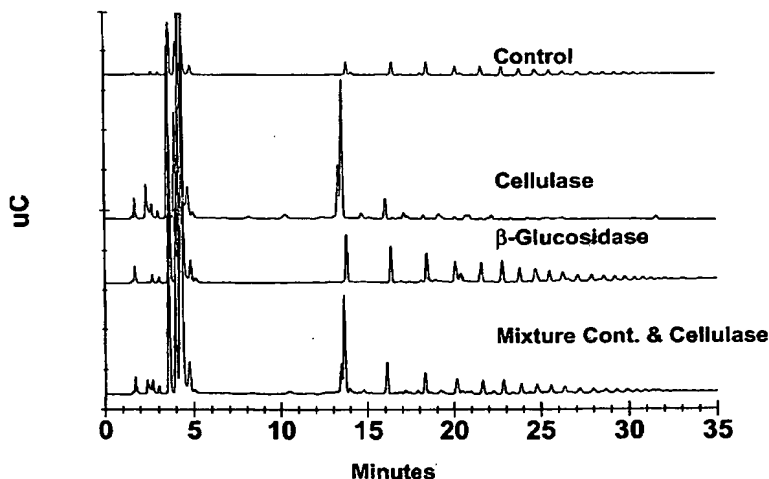
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(54) Title: ENZYMATIC DEGRADATION OF COTTON FIBRES: EFFECT OF PROTEIN CROSS-LINKING AND THE USE OF DEGRADATION TO CHARACTERIZE FIBERS OF PLANT OF DIFFERENT GENETIC BACKGROUND



(57) Abstract: Specific extraction of the oligomers from cotton fibers can be achieved by a 24-hr incubation at 37°C with trypsin, chymotrypsin, proteinase K or pepsin, followed by a second 24-hr incubation at 37°C with cellulase (*Trichoderma reesei*) or β-glucosidase. Alternatively, samples were first subjected to cellulase or β-glucosidase treatment followed by the protease. The residual material is then treated with 0.5N HCl at 100°C and the extracts analyzed. Fibers treated with cellulase: followed by protease disintegrated and appeared as a cloudy solution, while the fibers treated with protease followed by cellulase retained their structural identity. This analysis reveals striking differences between cotton fibers from different varieties with respect to their susceptibility to enzymatic degradation. This protocol can be used to identify biochemical characteristics, which can then be correlated with genetic markers for advances in plant breeding.

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